

IN THE CLAIMS:

1-12. (Cancelled)

13. (Currently Amended) An arrangement for directly controlling the movement of a zoom system in a stereo microscope, comprising:

first and second direct driving motors in the stereo microscope for at least one moving lens system having first and second moving lenses, the driving motors operable to control respective first and second moving lenses by moving each of the first and second moving lenses to a desired reference point, each direct driving motor having a step-wise resolution;

a control unit operable to control the driving motors and to read calculated pre-stored values of reference points from a mathematical controlling curve for simultaneously directing the movement of the first and second moving lenses by controlling the driving motors in a corresponding manner to cover a different number of discrete individual steps per unit of time solely according to the mathematical controlling curve for each of the first and second direct driving motors and without necessitating use of mechanical generation of the mathematical controlling curve

wherein the first and second lenses reach the desired reference point simultaneously in discrete individual steps of varying magnitude at a same time

and wherein the first and second lenses ensure a sharp image at all time during the movement required to reach the desired reference point.

14. (Cancelled)

15. (Previously Presented) The arrangement according to claim 13, wherein the first and second moving lenses which comprise the at least one moving lens system are provided as lens

pairs in a Greenough type stereo microscope or telescope type stereo microscope.

16. (Cancelled)

17. (Previously Presented) The arrangement according to claim 13, wherein the driving motors are linear drives.

18. (Original) The arrangement according to claim 17, wherein the linear drives are arranged in the stereo microscope housing.

19. (Previously Presented) The arrangement according to claim 18, wherein the driving motors are arranged between lens pairs which comprise the at least one moving lens system.

20. (Previously Presented) The arrangement according to claim 13, wherein a plurality of moving lens members which comprise the at least one moving lens system and are controlled jointly.

21. (Previously Presented) The arrangement according to claim 13, wherein at least two lens members which comprise the at least one moving lens system are driven separately.

22. (Previously Presented) The arrangement according to claim 13, wherein a linear magnification that is adjusted is determined and displayed during the controlling of the zoom system.

23. (Previously Presented) The arrangement according to claim 13, wherein at least one

control unit is used for motorized zoom adjustment and for motorized focusing of the microscope.

24. (Cancelled)

25. (Currently Amended) An arrangement for directly controlling the movement of a zoom system in a stereo microscope, comprising:

first and second direct driving motors arranged in the stereo microscope and operable to respectively move first and second movable lenses to a desired reference point by moving the first and second movable lenses different number of discrete individual steps per unit of time;

a memory that stores values that represent a mathematical controlling curve for directing movement of the first and second movable lenses; and

a control unit which reads the stored values from the memory and controls the direct driving motors in a corresponding manner without using mechanical generation of the mathematical controlling curve, the control unit operable to perform an initialization of the first and second direct driving motors to find a predetermined position upon power-up

wherein the first and second lenses reach the desired reference point simultaneously in discrete individual steps of varying magnitude at a same time,

and wherein the first and second lenses ensure a sharp image at all time during the movement required to reach the desired reference point.

26. (Previously Presented) The arrangement according to claim 25, wherein the control unit performs the initialization of the first and second direct driving motors to find a zero point for the two motors.

27. (Previously Presented) The arrangement according to claim 26, wherein the initialization includes directing the two motors to move the first and second moving lenses to their lowest magnification.

28. (Currently Amended) The arrangement according to claim 25, wherein:
the first and second direct driving motors are controllable in a step-wise manner;
the control unit reads the stored values from the memory and simultaneously directs the movement of the first and second moving lenses by controlling the driving motors in a corresponding manner to cover ~~a~~ the different number of discrete individual steps per unit of time according to the mathematical controlling curve to always provide correct focusing during movement of the first and second moving lenses.

29. (Cancelled)

30. (Previously Presented) The arrangement according to claim 28, wherein the control unit performs the initialization of the first and second direct driving motors to find a zero point for the two motors.

31. (Previously Presented) The arrangement according to claim 30, wherein the initialization includes directing the two motors to move the first and second moving lenses to their lowest magnification.